**Amendments to the Claims:**

Please amend claims 2, 19, 61 and 66 as follows. This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously presented) A substantially purified single or two chain MTSP7 protease that comprises the sequence of amino acids encoded by the sequence of nucleotides set forth in SEQ ID No. 15.

2. (Currently Amended) The ~~polypeptide~~ protease of claim 1 that is an activated two chain ~~polypeptide~~ protease.

3. (Canceled)

4. (Previously presented) A substantially purified two chain protease comprising the MTSP7 protease domain encoded by the sequence of nucleotides set forth in SEQ ID No. 17.

5. (Previously presented) A substantially purified single chain or two chain protease that consists of the MTSP7 protease domain encoded by the sequence of nucleotides set forth in SEQ ID No. 17.

6. – 7. (Canceled)

8. (Previously presented) The substantially purified protease of claim 1 that comprises the sequence of amino acids set forth in SEQ ID No. 16.

9. (Previously presented) The substantially purified protease of claim 5 that consists of the sequence of amino acids set forth in SEQ ID No. 18.

10. – 17. (Canceled)

18. (Previously presented) A modified single or two chain MTSP7 protease wherein the protease comprises the sequence of amino acids encoded by the sequence of nucleotides set forth in SEQ ID No. 15 modified by the replacement of a free Cysteine in the protease domain with another amino acid.

19. (Currently Amended) The ~~polypeptide~~ protease of claim 18, wherein the replacing amino acid is a serine.

20. – 49. (Canceled)

50. (Previously presented) A conjugate comprising the protease of claim 1 or claim 5 and a targeting agent linked to the protease directly or via a linker.

51. (Previously presented) The conjugate of claim 50, wherein the targeting agent permits affinity isolation or purification of the conjugate, attachment of the conjugate to a surface, detection of the conjugate, or targeted delivery of the conjugate to a selected tissue or cell.

52. (Previously presented) A conjugate, comprising the protease of claim 4, and a targeting agent linked to the protease directly or via a linker.

53. (Previously presented) The conjugate of claim 52, wherein the targeting agent permits affinity isolation or purification of the conjugate, attachment of the conjugate to a surface, detection of the conjugate, or targeted delivery of the conjugate to a selected tissue or cell.

54. – 58. (Canceled)

59. (Previously presented) A solid support, comprising two or more proteases of claim 1 or claim 5 linked thereto either directly or via a linker.

60. (Previously presented) The support of claim 59, wherein the proteases comprise an array.

61. (Currently Amended) The [[array]] support of claim 60, wherein the array further comprises a plurality of different protease domains.

62. – 64. (Canceled)

65. (Previously presented) A method for identifying compounds that inhibit the protease activity of the protease of claim 1 or claim 5, comprising:

contacting the protease of claim 1 or claim 5 with a substrate that is proteolytically cleaved by the protease, and, either simultaneously, before, or after, adding a test compound or plurality thereof;

measuring the amount of substrate cleaved in the presence of the test compound; and,

selecting test compounds that decrease the amount of substrate cleaved compared to a control, thereby identifying compounds that inhibit the activity of the protease.

66. (Currently Amended) The method of claim 65, wherein the test compounds are small molecules, peptides, peptidomimetics, natural products, antibodies or fragments thereof that modulate the activity of the ~~polypeptide~~ protease.

67. (Previously presented) The method of claim 65, wherein a plurality of the test compounds are screened simultaneously.

68. (Canceled)

69. (Previously presented) A method for identifying compounds that inhibit the protease activity of the two-chain protease of claim 4, comprising:

contacting the two-chain protease of claim 4 with a substrate that is proteolytically cleaved by the protease, and, either simultaneously, before, or after, adding a test compound or plurality thereof;

measuring the amount of substrate cleaved in the presence of the test compound; and,

selecting test compounds that decrease the amount of substrate cleaved compared to a control, thereby identifying compounds that inhibit the activity of the two-chain protease.

70. (Original) The method of claim 65, wherein the change in the amount of substrate cleaved is assessed by comparing the amount of substrate cleaved in the presence of the test compound with the amount of substrate cleaved in the absence of the test compound.

71. (Previously presented) The method of claim 67, wherein a plurality of the proteases are linked to a solid support, either directly or via a linker.

72. (Previously presented) The method of claim 71, wherein the proteases comprise an array.

73. (Previously presented) A method of identifying a compound that specifically binds to the protease of claim 1 or claim 5, comprising:

contacting the protease of claim 1 or claim 5 with a test compound or plurality thereof under conditions conducive to binding of the test compound to the protease;

measuring the amount of a test compound that remains bound to the protease; and,

selecting test compounds that remain bound to the protease compared to a control, thereby identifying compounds that specifically bind to the protease.

74. (Previously presented) The method of claim 73, wherein the protease is linked either directly or indirectly via a linker to a solid support.

75. (Original) The method of claim 73, wherein the test compounds are small molecules, peptides, peptidomimetics, natural products, antibodies or fragments thereof.

76. (Previously presented) The method of claim 73, wherein a plurality of the test compounds are screened simultaneously.

77. (Previously presented) The method of claim 73, wherein a plurality of the proteases are linked to a solid support.

78. (Previously presented) A method of identifying a compound that specifically binds to the two-chain protease of claim 4, comprising:

contacting the two-chain protease of claim 4 with a test compound or plurality thereof under conditions conducive to binding of the test compound to the protease;

measuring the amount of a test compound that remains bound to the protease;

and,

selecting test compounds that remain bound to the protease compared to a control, thereby identifying compounds that specifically bind to the protease.

79. (Previously presented) A method for identifying activators of the zymogen form of the protease of claim 1 or claim 5, comprising:

contacting a zymogen form of the protease of claim 1 or claim 5 with a substrate of the activated form of the protease;

adding a test compound, wherein the test compound is added before, after, or simultaneously with the addition of the substrate;

and,

detecting cleavage of the substrate, thereby identifying compounds that activate the zymogen.

80. – 81. (Canceled)

82. (Original) The method of claim 79, wherein the test compound is a small molecule, a nucleic acid or a polypeptide.

83. – 122. (Canceled)

123. (Previously presented) A modified protease comprising the sequence of amino acids set forth between positions 206-438 of SEQ ID No. 16 modified by the replacement of a free cysteine with a serine.

124. (Previously presented) The protease of claim 123 that consists of the sequence of amino acids set forth between positions 206-438 of SEQ ID No. 16 modified by the replacement of a free cysteine with a serine.

125. (Previously presented) A method for identifying compounds that inhibit the protease activity of the protease of claim 123, comprising:

contacting the protease with a substrate that is proteolytically cleaved by the protease, and, either simultaneously, before, or after, adding a test compound or plurality thereof;

measuring the amount of substrate cleaved in the presence of the test compound; and,

selecting test compounds that decrease the amount of substrate cleaved compared to a control, thereby identifying compounds that inhibit the activity of the protease.

126. (Previously presented) A conjugate comprising the protease of claim 123 and a targeting agent linked to the protease directly or via a linker.

127. (Previously presented) A method for identifying compounds that inhibit the protease activity of the protease of claim 124 comprising:

contacting the protease with a substrate that is proteolytically cleaved by the protease, and, either simultaneously, before, or after, adding a test compound or plurality thereof;

measuring the amount of substrate cleaved in the presence of the test compound; and,

selecting test compounds that decrease the amount of substrate cleaved compared to a control, thereby identifying compounds that inhibit the activity of the protease.

128. (Previously presented) A conjugate comprising the protease of claim 124 and a targeting agent linked to the protease directly or via a linker.